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10/700,065	11/03/2003	Donald J. Fasen	10016512-1	3720

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EXAMINER	
GOMA, TAWFIK A	
ART UNIT	PAPER NUMBER
2627	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/700,065	FASEN, DONALD J.	
	Examiner	Art Unit	
	Tawfik Goma	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to the amendment filed on 12/26/2006.

Response to Amendment

The affidavit filed on 12/26/2006 under 37 CFR 1.131 has been considered but is ineffective to overcome the Raese (US 6700853) reference.

The evidence submitted is insufficient to establish diligence from a date prior to the date of reduction to practice of the Raese (US 6700853) reference to either a constructive reduction to practice or an actual reduction to practice. Where conception occurs prior to the date of the reference, but reduction to practice is afterward, it is not enough merely to allege that applicant or patent owner had been diligent. Ex parte Hunter, 1889 C.D. 218, 49 O.G. 733 (Comm'r Pat. 1889). Rather, applicant must show evidence of facts establishing diligence. See MPEP 715.07 (a).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 24-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 24-36 include the limitation of "control-code information" which is not found anywhere in the specification. Furthermore, claims 26 and 32 contain a limitation to the use of

MEMs memory, which is also not in the specification. Finally claims, 29 and 34 contain limitations regarding the positioning of the mechanism "*between* the tracks." The specification discusses positioning the mechanism such that it is at the center of the track (see figure 4).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claims 1-2, 22, 24 and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Raese (US 6700853).

Regarding claim 1, Raese discloses a semiconductor memory comprising: a controller (1000, fig. 11); a media including first information (fig. 7); and first read/write mechanism including an electron field emitter (fig. 10), configured to read the first information (col. 7 lines 1-6); wherein the controller is configured to receive a first signal generated in response to the first information being read, and wherein the controller is configured to generate a second signal

configured to cause a position of the media to be adjusted relative to the electron field emitter in response to the first signal (col. 7 lines 1-6).

Regarding claim 2, Raese further discloses wherein the first information comprises position information (col. 7 lines 1-6).

Regarding claim 22, Raese discloses an atomic resolution storage device comprising: a media including servo information; (100, fig. 10 and 740, fig. 7) a field emitter associated with the media, configured to read the servo information (1002, fig. 10); wherein the controller is configured to receive a first signal generated in response to the servo information being read, and wherein the controller is configured to generate a second signal (col. 7 lines 1-6); a mover configured to adjust the position of the media relative to field emitter in response to the second signal (col. 7 lines 1-6 and 1121 fig. 1) .

Regarding claims 24 and 36, Raese discloses a system for storing and retrieving information comprising: semiconductor media for storing and retrieving data (fig. 1); a read/write mechanism movable relative to said media for writing data to and reading data from said media; means for positioning said read/write mechanism relative to said media (112, fig. 1); andcontrol-code stored on said media for controlling said means for positioning said read/write mechanism (col. 7 lines 1-6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-25, 27-31 and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall (US 2002/0122373) in view of Guzik et al (US 2002/0114101).

Regarding claim 1, Marshall discloses a semiconductor memory comprising: a controller (fig. 2); a media including first information (fig. 7); and first read/write mechanism including an electron field emitter (fig. 15), configured to read the first information (par. 31). Marshall further discloses wherein the controller controls the movement of the medium to create any desired read/write path (par. 66). Marshall fails to disclose wherein the controller is configured to receive a first signal generated in response to the first information being read, and wherein the controller is configured to generate a second signal configured to cause a position of the media to be adjusted relative to the electron field emitter in response to the first signal. In the same field of endeavor, Guzik discloses using a servo burst to adjust the position of the medium and the recording source (par.66). It would have been obvious to one of ordinary skill in the art to modify the storage device disclosed by Marshall in order to provide information on the medium for generating a positioning signal as taught by Guzik. The rationale is as follows: One of ordinary skill in the art would have been motivated to generate positioning adjustment signal from information on a semiconductor memory in order to adjust the 'tracking error' of the read/write means with respect to the data bits on the memory.

Regarding claim 2, Guzik further discloses wherein the first information comprises position information (59, fig. 3).

Regarding claim 3, Marshall discloses wherein the first information comprises timing information (par. 66). Guzik further discloses wherein the first information comprises timing information (par. 60).

Regarding claim 4, Marshall disclose a mover configured to move the position of the media relative to the read/write mechanism in response to a control signal (par. 69 and par. 89 and fig. 14). Guzik discloses a mover configured to adjust the position of the media relative to the first read/write mechanism in response to the second signal (par. 64). The rationale for combining Marshall and Guzik follows as in claim 1.

Regarding claim 5, Marshall discloses a second read/write mechanism configured to read information from the media (par. 37); wherein the mover is configured to adjust the position of the media relative to the second read/write mechanism in response a control signal (pars. 37-38). Guzik discloses wherein multiple areas of second information (burst information) are stored within the storage medium (par. 62).

Regarding claim 6, Marshall discloses wherein the controller is configured to generate a third signal configured to cause a timing window to be generated wherein a timing signal is generated in response to the first signal (par. 66). Guzik discloses wherein a timing signal is generated in response to the burst information (par. 63).

Regarding claim 7, Marshall further discloses a read/write mechanism configured to read second information from the media during the timing window (par. 66).

Regarding claim 8, Marshall further discloses a read/write mechanism configured to write second information to the media during the timing window (par. 66).

Regarding claim 9, Marshall discloses a method of reading information from a semiconductor storage device comprising: reading first information from a media in the semiconductor storage device (par. 66); generating a first signal in response to reading the first information (par. 39); and generating a second signal (110, fig. 2 and pars. 48 and 57), the

second signal configured to cause second information to be read from the media during a first time period (par. 66). Marshall fails to disclose wherein the second signal is generated from the first information read from the medium. In the same field of endeavor, Guzik discloses generating a second signal including timing information from first information read from a medium (par. 60). It would have been obvious to one of ordinary skill in the art to modify the method disclosed by Marshall by generating the timing signal from the first information read from the medium as taught by Guzik. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to generate the timing signal from the first information on the medium in order to generate a reproduction signal that is in phase with the bits on the medium.

Regarding claim 10, Marshall further discloses reading the second information from the media during the first time period (par. 37).

Regarding claim 11, Guzik discloses reading the first information from a first cluster on the media (par. 62); and reading the second information from a second cluster on the media during the first time period (pars. 66-67). Marshall discloses wherein the information is read based on the equations in par. 48 and par. 57, which in combination with Guzik are set using the timing information generated from the first information.

Regarding claims 12 and 13, Marshall discloses wherein the second signal is configured to cause third information to be written to the media during a second time period (pars. 48-64). Marshall discloses wherein the timing windows are based on the arbitrary phase components of the equations in paragraphs 48 and 57. The combination of Marshall and Guzik selects the timing windows based on the generated timing signals as taught by Guzik (par. 60).

Regarding claim 14, Guzik further discloses reading the first information from a first cluster on the media ('servo bursts', par.66). Marshall discloses writing the second information to a second cluster on the media during the second time period (par. 66, fig. 1d and par. 44).

Regarding claim 15, Marshall discloses generating a third signal, the third signal configured to cause a position of the media to be adjusted relative to a read/write mechanism (110, fig. 2 and pars. 48 and 57). Guzik discloses wherein the third signal is generated from the first information (burst information, par. 64). It would have been obvious to one of ordinary skill in the art to modify the method disclosed by Marshall by generating a third signal based on first information read form the medium as taught by Guzik.. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to modify the method disclosed by Marshall in order to generate a third signal based on first information in order to produce a tracking error signal from the reproduced information.

Regarding claims 16, Marshall discloses an atomic resolution storage device comprising: a media that includes a first cluster and a second cluster (par.43), the first cluster including first information (par. 39); first means for generating timing information (110D, fig. 2 and par. 66); and second means for writing second information in the second cluster using the timing information (pars. 37 and 66). Marshall discloses that the controller 110D generates timing windows for writing to the different clusters or arrays on the medium. Marshall fails to disclose where the timing windows are generated from the first information read from the medium. In the same field of endeavor, Guzik discloses servo burst information that contains timing information (par. 60). It would have been obvious to one of ordinary skill in the art to modify

the storage device disclosed by Marshall in order to provide timing information on the medium as taught by Guzik. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to provide timing information on the medium in order to read/write information at a proper bit density and phase such that jitter error is minimized.

Regarding claim 17, Marshall further discloses third means for reading third information from the second cluster using the timing information (par. 37). Marshall discloses a plurality of arrays or clusters and a plurality of means for reading and writing to the arrays using the timing information generated by the controller 110D.

Regarding claim 18, Marshall further discloses third means for generating position information (110D, fig. 2 and par. 44); and fourth means for adjusting the media relative to the second means in response to the position information (110C, fig. 2 and par. 44). Marshall fails to disclose wherein the position information is generated from the first information. Guzik further discloses that the burst information is used to generate a signal to adjust the position of the medium relative to the head (par. 64). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the storage device disclosed by Marshall in order to provide information on the medium for generating a positioning signal as taught by Guzik. The rationale is as follows: One of ordinary skill in the art would have been motivated to generate positioning information from information on a storage device in order to adjust the 'tracking error' of the read/write means and the data bits.

Regarding claim 19, Marshall further discloses wherein the second cluster includes a plurality of patches, wherein each of the plurality of patches includes a plurality of tracks, and

wherein the second means is for writing the second information to one of the plurality of tracks (135A, 135B, fig. 2 and par. 66).

Regarding claim 20, Marshall further discloses wherein the position information indicates a position of the second means relative to the one of the plurality of tracks (par. 44).

Regarding claim 21, Marshall further discloses wherein the fourth means is for adjusting the media relative to the second means in response to the position information to align the second means with a center of the one of the plurality of tracks (par. 44 and fig. 14). Guzik further discloses that a tracking error signal is generated from the first information for positioning the head at the center of the track (par. 60).

Regarding claim 22, Marshall discloses an atomic resolution storage device comprising: a media including information (fig. 1d); a filed emitter associated with the media, configured to read the information (par. 39); wherein a controller is configured to receive a first signal (110D, fig. 2); the controller being configured to generate a second signal (110E, 110F, fig. 2); a mover configured to adjust the position of the media relative to field emitter in response to the second signal (par. 44). Marshall fails to disclose wherein the information is servo information, and wherein the position signal is generated form the servo information. In the same field of endeavor, Guzik discloses servo burst information recorded on a medium, wherein position information is generated from the servo burst information (par. 60). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the storage device disclosed by Marshall in order to provide information on the medium for generating a positioning signal as taught by Guzik. The rationale is as follows: One of ordinary skill in the

art would have been motivated to generate positioning information from information on a storage device in order to adjust the 'tracking error' of the read/write means and the data bits.

Regarding claim 23, Marshall discloses a second field emitter configured to read second information from the medium (par. 44) and wherein the controller is configured to adjust the position of the medium relative to the second field emitter in response to the second signal (par. 44 and fig. 2). Guzik discloses wherein the information is servo information as applied above, and that the medium can contain a plurality of servo burst information areas (par. 62).

Regarding claims 24 and 30, Marshall discloses a system for storing and retrieving information comprising: semiconductor media for storing and retrieving data (fig. 7); a read/write mechanism movable relative to said media for writing data to and reading data from said media (fig. 15); means for positioning said read/write mechanism relative to said media (par. 66 and 110D, fig. 2). Marshall fails to disclose control-code stored on said media for controlling said means for positioning said read/write mechanism. In the same field of endeavor, Guzik discloses servo burst information recorded on a medium, wherein position information is generated from the servo burst information (par. 60). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the storage device disclosed by Marshall in order to provide control code information on the medium for generating a positioning signal as taught by Guzik. The rationale is as follows: One of ordinary skill in the art would have been motivated to generate positioning information from information on a storage device in order to adjust the 'tracking error' of the read/write means and the data bits.

Further regarding claim 30, Marshall further discloses a means for timing said read/write mechanism (par. 66).

Regarding claim 25, Guzik further discloses wherein control-code includes code for controlling timing of said read/write mechanism (par. 66). Marshall discloses wherein the controller is used to control timing (par. 66)

Regarding claims 27 and 33, Guzik further discloses wherein said control-code is written in tracks (fig. 9).

Regarding claims 28 and 34, Marshall further discloses wherein said means for positioning positions said read/write mechanism between said tracks (Par. 44 and fig. 14).

Regarding claims 29 and 35, Guzik further disclsoes wherein said means for positioning positions said read/write mechanism between said tracks to detect a signal of equal amplitude from each track (par. 10 and fig. 6). It would have been obvious to detect the signal of equal amplitude from each servo bit in order to property center the head on the track and correct for the tracking error. The rationale for combining Marshall and Guzik follows as in claim 24.

Regarding claim 31, Guzik further discloses wherein said read/write control-code includes code for controlling a position of said read/write mechanism (59, fig. 3).

Regarding claim 36, Marshall discloses a method for storing and retrieving information including the steps of providing semiconductor media for storing and retrieving data (fig. 7); providing a read/write mechanism movable relative to said media for writing data to and reading data from said media (fig. 15); Marshall fails to disclose control-code stored on said media for controlling said means for positioning said read/write mechanism. In the same field of endeavor, Guzik discloses servo burst information recorded on a medium, wherein position information is generated from the servo burst information (par. 60). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the storage

device disclosed by Marshall in order to provide control code information on the medium for generating a positioning signal as taught by Guzik. The rationale is as follows: One of ordinary skill in the art would have been motivated to generate positioning information from information on a storage device in order to adjust the 'tracking error' of the read/write means and the data bits.

Claims 26 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall (US 2002/0122373) in view of Guzik et al (US 2002/0114101) as applied to claim 1-15, 27-31, and 33-36 above, and further in view of Jin (US 7068582).

Regarding claims 26 and 32, Marshall in view of Guzik fail to disclose wherein said media is micro-electrical-mechanical (MEMs) memory. In the same field of endeavor, Jin discloses using MEMs memory (col. 2 lines 24-34). It would have been obvious to one of ordinary skill in the art to modify the system disclosed by Marshall in view of Guzik by providing a MEMs memory. The rationale is as follows: One of ordinary skill in the art would have been motivated to provide a MEMs memory device in order to read very high density magnetic media and CD ROMs.

Response to Arguments

Applicant's arguments filed 12/26/2006 have been fully considered but they are not persuasive.

Applicant's argument that tracking error in reading and writing data to memory when using a stepper motor is not persuasive because 1) the applicant does not claim or discuss the use of a stepper motor in the application and 2) One of ordinary, or even minimal skill in the art would be aware of tracking error in reading and writing data. Furthermore, in combining Guzik

with Marshall, Gruzik provides the teaching of requiring the servo burst information to compensate for tracking error (see Guzik, par. 67).

Applicant's argument with respect to the expected addition of complexity and cost to the system, this argument is not persuasive because an obvious combination that results in a more complex system (by adding more components) or a more costly system, does not render the combination non-obvious.

Finally, applicant's argument that the conventional methods for controlling position and timing have typically been open loop is not persuasive because applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tawfik Goma whose telephone number is (571) 272-4206. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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3/8/2007

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